



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/582,793

06/14/2006

Hideonori Ishii

2006_0889A

6759

52349

7590

10/07/2008

WENDEROTH, LIND & PONACK L.L.P.

2033 K. STREET, NW

SUITE 800

WASHINGTON, DC 20006

EXAMINER

OBAYANJU, OMONIYI

ART UNIT

PAPER NUMBER

4163

MAIL DATE

DELIVERY MODE

10/07/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/582,793

Applicant(s)

ISHII ET AL.

Examiner

OMONIYI A. OBAYANJU

Art Unit

4163

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-8508)
Paper No(s)/Mail Date 06/14/2008
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

Figures 15-21 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1 and 12 are rejected under 35 U.S.C. 102(e) as being anticipated by

Pasanen et al (US Publication No. 20050141593).

3. As to claims 1 and 12, Pasanen teaches a wireless network control system, comprising: a plurality of base stations that communicate with a mobile terminal (pg. 2, pp0012, lines 1-3); and relay stations provided in association with the respective base stations to relay communication between the mobile terminal and the base station (pg. 2, pp0012, lines 3-10); wherein when more than one of the plurality of base stations detect the mobile terminal within each accommodation areas (pg. 3, pp0027, lines 8-11), one of the base stations which detected the mobile station establishes communication connection to the relay station associated with another base station which detected the mobile station, and then performs diversity combining of radio signals from the mobile terminal received through the relay station associated with said one of the base stations and the relay station associated with said another base station (pg. 3, pp0027, lines 16-26).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2-5, 10, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pasanen et al (US Publication No. 20050141593) in view of Mohebbi (US Patent No. 7236788).

6. As to claims 2, 10, and 13, Pasanen teaches comprising: a wireless network control apparatus that controls communication between the base stations and the mobile terminal (fig. 1); wherein the wireless network control apparatus comprises, a relay station which can be communicatively connected to the base station, in relation to the respective base stations (pg. 3, pp0027, lines 10-15); search means that, when more than one of the plurality of the base stations detect the mobile terminal, searches a base station which can be communicatively connected to relay stations associated with the base stations which detected the mobile terminal, from the base stations which detected the mobile terminal (pg. 3, pp0027, lines 8-11); and control means that allows communication connection to be established between the base station searched by the search means and the respective relay stations (pg. 3, pp0032, lines 11-15); wherein the base station comprises combining means that performs diversity combining of radio signals from the mobile terminal received through the respective relay stations (pg. 3, pp0027, lines 21-26). However, Pasanen fails to a management table for storing information. Mohebbi teaches a management table for storing a relay station (BTS) (col. 12, lines 20-28). Thus, it would have been obvious to one of ordinary skill in the art at time the invention was made to combine the teachings of Pasanen system with the management table teachings of Mohebbi to achieve the goal of efficiently controlling multiple access points in a given communication system.

7. As to claim 3, Pasanen in view of Mohebbi teaches the limitations of claim 2 as discussed above. However, Pasanen fails to teach wherein when a mobile terminal is detected based on information indicating radio field intensity received from the mobile

terminal, the search means searches a base station that can be communicatively connected to relay stations that have relayed the information indicating the radio field intensity. Mohebbi teaches a mobile station selecting signal based on the signal strength (col. 1, lines 58-62). Thus, it would have been obvious to one of ordinary skill in the art at time the invention was made to combine the teachings of Pasanen with the teachings of Mohebbi to achieve the goal of efficiently determining a mobile station in a communication region of a wireless communication system.

8. As to claim 4, Pasanen in view of Mohebbi teaches the limitations of claim 2 as discussed above. However, Pasanen fails to teach wherein the control means of the wireless network control apparatus disconnects communicative connection between base station other than the base station searched by the search means and the relay station. Mohebbi teaches disconnecting the first base station (BTS-A) when (BTS-B) is connected as the serving base station (col. 7, lines 8-17). Thus, it would have been obvious to one of ordinary skill in the art at time the invention was made to combine the teachings of Pasanen with the teachings of Mohebbi to achieve the goal of efficiently consuming power in the base station not currently in communication with the mobile station.

9. As to claim 5, Pasanen in view of Mohebbi teaches the limitations of claim 2 as discussed above. Also, Pasanen teach wherein the base station comprises relay-station-information transmission means that transmits information indicating relay stations to which the base station can be communicatively connected to the wireless network control apparatus (pg. 3, pp0033, lines 9-13); and information indicating the

communicatively connectable relay stations transmitted from the base station (pg. 3, pp0032, lines 1-9). However, Pasanen fails to teach the wireless network control apparatus comprises management-table update means that updates the management table. Mohebbi teaches a management table (fig. 8, #284) which stores the update (active list) information of base station (col. 12, lines 23-29). Thus, it would have been obvious to one of ordinary skill in the art at time the invention was made to combine the teachings of Pasanen system with the management table teachings of Mohebbi to achieve the goal of efficiently controlling and refreshing the information of multiple access points in a given communication system.

10. Claims 6-9, 11, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pasanen et al (US Publication No. 20050141593) in view of Jiang et al (US Patent No. 6519457) and Kubota (US Publication No. 20010007819).

11. As to claims 6, 7, 8, and 9, Pasanen teaches the limitations of claim 1 as discussed above. Pasanen further teaches combining means that performs diversity combining of radio signals from the mobile terminal received through a plurality of relay stations (pg. 3, pp0027, lines 21-26). However, Pasanen fails to teach wherein said base station comprises, inter-base station communication means for communicating with said another base station; a management table that stores information on relay station which can be communicatively connected to said base station; determination means that, when the mobile terminal is detected, determines whether said another

base station in communication with the same mobile terminal exist or not based on information from said another base station obtained by communication using the inter-base station communication means; search means that, when said another base station in communication with the same mobile terminal detected by said base station is determined to exist, searches a base station which can be communicatively connected to a relay station associated with said base station and relay station associated with said another base station which communicate with the same mobile terminal based on the management table; control means that communicates a control signal through the inter-base station communication means such that communication connection is established between the base station searched by the search means and the respective relay stations;. Jiang teaches inter-base station communication means for communicating with said another base station (fig. 3, #160). A relay station (fig. 3, #136) communicating with the source base station (col. 4, lines 51-53), determination means (fig. 3, #122) that, when the mobile terminal is detected, determines whether said another base station in communication with the same mobile terminal exist or not (col. 8, line 15-20) based on information from said another base station (target base station) obtained by communication using the inter-base station communication means (col. 9, lines 5-15), search means that, when said another base station in communication with the same mobile terminal detected by said base station is determined to exist, searches a base station which can be communicatively connected to a relay station associated with said base station (fig. 3, #136) and relay station associated with said another base station (fig. 3, #162) which communicate with the same mobile terminal (col. 7, lines 45-

50), control means (fig. 3, #130) that communicates a control signal through the inter-base station communication means such that communication connection is established between the base station searched by the search means and the respective relay stations (col. 4, lines 45-55). Also, Kubota teaches a management table for storing relay information between the base station and the mobile terminal (fig. 7-9). Thus, it would have been obvious to one of ordinary skill in the art at time of invention was made to combine the teachings of Pasanen with Jiang and Kubota to achieve a communication system with direct link between the base stations which will reduce the transmission time to avoid dropping calls. Also, such a system would reduce the work load on the communication control system.

12. As to claim 11, the base station limitations of claim 11 are inherent in the system of Pasanen in view of Jiang and Kubota as discussed in claim 6 above.

13. As to claim 14, the method limitations of claim 14 are inherent in the system of Pasanen in view of Jiang and Kubota as discussed in claim 6 above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to OMONIYI A. OBAYANJU whose telephone number is (571)270-5885. The examiner can normally be reached on Mon - Fri, 7:30 - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Robinson can be reached on 571-272-2319. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/O. A. O./
Examiner, Art Unit 4163

/Mark A. Robinson/
Supervisory Patent Examiner, Art Unit 4163